



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,331	09/08/2003	Wen-Shi Huang	0941-0834P	9211
2292	7590	04/28/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			TAMAI, KARL I	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			2834	

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

3

Office Action Summary

Application No.

10/656,331

Applicant(s)

HUANG ET AL.

Examiner

Tamai I.E. Karl

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-23 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The prior rejection of Claims 19-23 under 35 U.S.C. 112, first paragraph, is withdrawn.

2. The prior rejection of Claims 18 under 35 U.S.C. 112, second paragraph, is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2834

5. Claims 1-3, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420). Ishizuka teaches a bearing having an attractive magnetic upper 3/lower 4 bearings symmetrically disposed at opposite ends of the shaft which provide axial and radial forces on the shaft and a ball bearing 5 connected to the shaft 1 and base 2. The upper bearings 4 (also the first magnetic portion) having inner and outer rings which are aligned (figure 5) which are completely radially aligned and having the poles axially offset with the same polar disposition, and where the lower bearings(also the second magnetic portion) having first (3a), second (3b) and third rings (3aa)(figure 5). Ishizuka teaches that any combination of the bearings is acceptable (page 13, last paragraph). Ishizuka teaches the bearing supporting a fan (inherently includes a fan mounted to the shaft). Ishizuka teaches the magnets coupled to the base and shaft. Ishizuka teaches every aspect of the invention except the magnet and bearing portions on the inner side of the hub. Tadane teaches the bearings on the inner side of the hub to provide a compact low friction motor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan of Ishizuka with the bearings on the inner side of a hub to provide a compact motor with low frictional torque, as taught by Tadane.

6. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Nakamura et al. (Nakamura)(JP 2000/078796). Ishizuka and Tadane teach every

Art Unit: 2834

aspect of the invention except the upper and lower magnetic portions being symmetrical to the bearings. Nakamura teaches the magnetic bearings on opposite ends of the shaft and symmetrical to the bearings. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the magnetic bearings symmetrical to the mechanical bearings to provide a motor of small size with a long life, as taught by Nakamura.

7. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242), Tadane et al. (Tadane)(JP 06-235420), and Nakamura et al. (Nakamura)(JP 2000/078796), in further view of Wyatt (US 4471331). Ishizuka, Tadane, and Nakamura teach every aspect of the invention except the first and second magnet rings are axially aligned with opposite polarities and the radially aligned magnets being of opposite polarity. Wyatt teaches the first 35 and second magnet 39 are axially aligned to provide a cumulative centering force with rotor magnet 34 to center the rotor. Wyatt teaches the polarities of the magnets can be attractive (fig. 2) or repulsive (fig. 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Nakamura with the first and second magnets axially aligned or with the magnets radially aligned with opposite polarities to effectively center the rotor as taught by Wyatt.

Art Unit: 2834

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Mendelsohn (US 2582788). Ishizuka and Tadane teach every aspect of the invention except the first, second, and third magnets being axially aligned with opposite polarities. Mendelsohn teaches a shaft supported by axially aligned magnets with opposite polarities. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the axially aligned magnets because Mendelsohn teaches to provide a powerful magnetic bearing.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242) and Tadane et al. (Tadane)(JP 06-235420), in further view of Weilbach et al. (Weilbach) (US 5019738). Ishizuka teaches every aspect of the invention except the first, second, and third magnets being axially aligned with identical polarities. Weilbach teaches a shaft supported by axially aligned magnets with identical polarities to provide good stiffness at high speeds. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the fan motor of Ishizuka and Tadane with the axially aligned magnets being repulsive to provide a strong bearing even at high speeds as taught by Weilbach.

Art Unit: 2834

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka (UK 2335242), Tadane et al. (Tadane)(JP 06-235420), and Nakamura et al. (Nakamura)(JP 2000/078796), in further view of Mehta et al. (Mehta)(US 5883449). Ishizuka, Tadane, and Nakamura teach every aspect of the invention except the bearing being a sleeve bearing. Nakamura disclose the bearings as any conventional bearings (black box). Mehta teaches that sleeve and ball bearings are used in fan motors. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ishizuka, Tadane, and Nakamura with a sleeve bearing to help support the rotor as suggested by Nakamura and Mehta.

Response to Arguments

11. Applicant's arguments filed April 21, 2006 have been fully considered but they moot in view of new grounds of rejection. Applicant's arguments regarding figure 5 are not persuasive. The magnets are arranged to inherently provide axial and radial forces.

Allowable Subject Matter

12. Claims 15-23 are allowed.

Conclusion

13. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2834

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
April 27, 2006

KARL TAMAI
PRIMARY EXAMINER

